L12: Entry 7 of 22 File: JPAB Nov 21, 1985

DOCUMENT-IDENTIFIER: JP 60234590 A
TITLE: HYDROLYSIS OF OIL OR FAT

Abstract (1):
PURPOSE: To enable the efficient hydrolysis of an oil or fat containing a long- chain highly unsaturated fatty acid, by hydrolyzing the oil or fat with lipase in the presence of a monohydric alcohol.

Abstract (2):
CONSTITUTION: An oil or fat containing a long-chain highly unsaturated fatty acid is added with 1∼10% water to attain a pH of 4.5∼8, and the mixture is added with 100∼3,000 unit of lipase based on 1g of the oil or fat and with 0.1∼ 10mol of a monohydric alcohol based on 1mol of the oil or fat, and is hydrolyzed at 30∼45°C. The lipase may be the one originated from animal or microorganism, and the monohydric alcohol is a 1∼28C alcohol such as methanol, ethanol, propanol, hexanol, octanol, decanol, hexacosanol, etc.

L12: Entry 6 of 22 File: JPAB Mar 27, 1989

DOCUMENT-IDENTIFIER: JP 01080297 A
TITLE: PRODUCTION OF FAT AND OIL

Applicant Name (1):
NIPPON OIL & FATS CO LTD

Applicant Name (1):
NIPPON OIL & FATS CO LTD

Abstract (1):
PURPOSE: To obtain a fat and oil suitable for food, cosmetic industries, etc., in high yield without oxidation or coloration, by reacting an enzyme-lipid complex which is a nonaqueous highly active enzyme with a fatty acid and fatty acid monoglyceride in a nonaqueous organic solvent.

Abstract (2):
CONSTITUTION: (A) An enzyme, such as lipase, in an amount of 1mg is dissolved in 0.02∼20ml buffer solution at, e.g. pH 5.0∼7.0, and (B) a solution prepared by dissolving, e.g. 10mg lipid (e.g. monogalactosyldiglyceride) in a hydrophilic organic solvent, such as methanol, is dripped thereon, stirred and dispersed while cooling to provide an enzyme-lipid complex of the nonaqueous highly active enzyme, which is subsequently dispersed in (C) an organic solvent, such as hexane. (D) A 4∼24C fatty acid (e.g. lauric acid) and monoglyceride are then preferably added and reacted to afford the aimed fat and oil.

L12: Entry 4 of 22 File: JPAB Aug 29, 1995

DOCUMENT-IDENTIFIER: JP 07227276 A
TITLE: LIPASE, MICROORGANISM PRODUCING THE SAME LIPASE AND METHOD FOR OBTAINING THE SAME MICROORGANISM

Applicant Name (2):
COSMO OIL CO LTD

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COSMO OIL CO LTD

Abstract (1):
PURPOSE: To obtain a new lipase having resistance to organic solvents, not loosing enzymatic activity and useful for detergents, pulp processing, synthetic reactions, etc.

Abstract (2):
CONSTITUTION: This lipase is capable of hydrolyzing triglyceride used as a substrate into a fatty acid and glycerin and the lipase has 20-60°C reacting temperature, 6-10 reacting pH range and 9.0-9.5 optimum pH and it has higher enzymatic activity in the presence of dodecane, 2-propanol, 1-heptanol, toluene, n-decane, n-octane, 1-octanol, methanol, n-heptane, n-xylene, cyclohexane, chloroform, decanol, acetone, ethanol, dimethyl sulfoxide, benzene or n-hexane than that in water. The activity of the lipase is lowered by 20-50% by treating it at pH 8.0 and ≤20°C or at ≥60°C for 5-15min and the activity of the lipase is lowered by ≥80% by treating it at 70°C for 5-15min. The lipase is obtained from a supernatant of cultured mixture obtained by culturing Pseudomonas aerugincysa LST-03 (FERM-P-14086), etc.

L12: Entry 2 of 22 File: JPAB Nov 19, 1996

DOCUMENT-IDENTIFIER: JP 08302384 A
TITLE: ENZYME FRACTIONATION OF HIGHLY UNSATURATED FATTY ACID

Abstract (1):
PROBLEM TO BE SOLVED: To obtain a fraction contg. highly unsatd. fatty acids having a degree of unsaturation of 3 or higher by hydrolyzing an oil rich in highly unsatd. fatty acids with a nonspecific lipase, collecting the resultant fatty acid mixture, esterifying the mixture with a lipase of the genus Mucor in the presence of methanol, and collecting and purifying a nonesterified fraction.

Abstract (2):
SOLUTION: Black currant seed oil, borage oil, and evening primrose oil rich in

L12: Entry 12 of 22 File: DWPI Jan 10, 2002

DERWENT-ACC-NO: 1995-368316
DERWENT-WEEK: 200211

TITLE: Prepn. of synthetic ester from vegetable oil - by a three-step enzymatic transesterification process using lipase enzymes

Equivalent Abstract Text:
An enzymatic process for preparing a synthetic ester from a vegetable oil comprises: (a) transesterification of the vegetable oil by reaction with lower alkanol to form a mixture of lower alkyl esters of fatty acids; (b) reacting the mixt. from (a) with a no beta hydrogen polyol of formula RC(CH2OH)3, where R is (1-6)C alkyl, particularly (1-4)C alkyl, or a - CH2OH gp., in the presence of a lipase (triacyl-glycerol acyl-hydrolase; EC 3.1.1.3); and (c) recovering the synthetic ester obtained.

Equivalent Abstract Text:
The vegetable oil is pref. rapeseed oil. The lower alkanol is pref. a (1-4)C alkanol, esp. methanol or ethanol. The fatty acid lower alkyl ester is pref. a methyl ester of a fatty acid.

Equivalent Abstract Text:
Stage (b) is pref. carried out in the presence of an immobilised lipase, pref. Candida rugosa lipase, or Mucor meihei lipase. The enzyme is pref. separated out after the reaction and recycled. The lipase is pref. obtained by transforming a gene coding for the enzyme into another host organism for producing the lipase.

Equivalent Abstract Text:
USE - The preparation of lubricants (claimed), especially hydraulic oils.

Equivalent Abstract Text:
ADVANTAGE - Preparation involves an improved process from vegetable oils of prior arts, the process avoids multistage reaction with several separations and recycling stages at each step, and good yields of prod. are obtained.

Standard Title Terms:
PREPARATION SYNTHETIC ESTER VEGETABLE OIL THREE STEP ENZYME TRANSESTERIFICATION PROCESS LIPASE ENZYME

Title (1):
Prepn. of synthetic ester from vegetable oil - by a three-step enzymatic transesterification process using lipase enzymes

Equivalent Abstract Text (1):
An enzymatic process for preparing a synthetic ester from a vegetable oil comprises: (a) transesterification of the vegetable oil by reaction with lower alkanol to form a mixture of lower alkyl esters of fatty acids; (b) reacting the mixt. from (a) with a no beta hydrogen polyol of formula RC(CH2OH)3, where R is (1-6)C alkyl, particularly (1-4)C alkyl, or a - CH2OH gp., in the presence of a lipase (triacyl-glycerol acyl-hydrolase; EC 3.1.1.3); and (c) recovering the synthetic ester obtained.

Equivalent Abstract Text (3):

The vegetable oil is pref. rapeseed oil. The lower alkanol is pref. a (1-4)C alkanol, esp. methanol or ethanol. The fatty acid lower alkyl ester is pref. a methyl ester of a fatty acid.

Equivalent Abstract Text (6):
Stage (b) is pref. carried out in the presence of an immobilised lipase, pref. Candida rugosa lipase, or Mucor meihei lipase. The enzyme is pref. separated out after the reaction and recycled. The lipase is pref. obtained by transforming a gene coding for the enzyme into another host organism for producing the lipase.

Equivalent Abstract Text (9):
USE - The preparation of lubricants (claimed), especially hydraulic oils.

Equivalent Abstract Text (10):
ADVANTAGE - Preparation involves an improved process from vegetable oils of prior arts, the process avoids multistage reaction with several separations and recycling stages at each step, and good yields of prod. are obtained.

Standard Title Terms (1):
PREPARATION SYNTHETIC ESTER VEGETABLE OIL THREE STEP ENZYME TRANSESTERIFICATION PROCESS LIPASE ENZYME